

# Science Toolkit: Grade 8 Objective 1.C.1.d

Student Handout: Science: Grade 8 Objective 1.C.1.d

Standard 1.0 Skills and Processes

Topic C. Communicating Scientific Information

Indicator 1. Develop explanations that explicitly link data from investigations conducted, selected readings and, when appropriate, contributions from historical discoveries.

Objective d. Criticize the reasoning in arguments in which

Fact and opinion are intermingled

Conclusions do not follow logically from the evidence given.

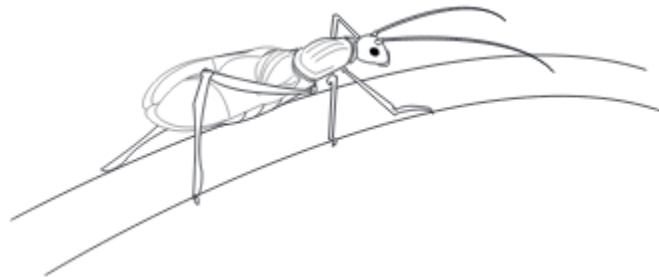
Existence of control groups and the relationship to experimental groups is not made obvious.

Samples are too small, biased, or not representative.

Selected Response (SR) Item

Question

Students counted the number of chirps made at different temperatures in 13 seconds by the same group of snowy tree crickets.



The students recorded the data in the table below. One student concluded that at 22°C there would be 39 chirps.

**NUMBER OF CRICKET CHIRPS**

| Temperature (°C) | Chirps per 13 Seconds |
|------------------|-----------------------|
| 16               | 20                    |
| 18               | 24                    |
| 20               | 28                    |
| 24               | 35                    |

The student's conclusion is most likely invalid because

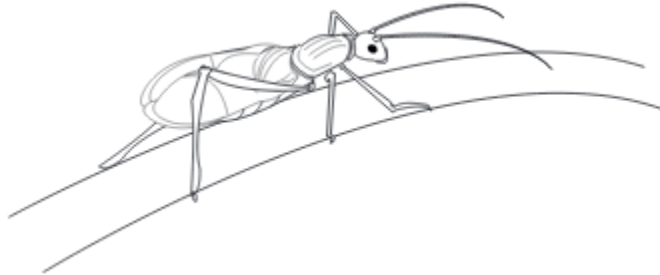
- A. the investigation contains two variables
- B. the data does not support the reasoning
- C. the number of crickets studied was too small
- D. the species of crickets used is not usually studied

Correct Answer

- B. the data does not support the reasoning

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